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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/534,537	05/12/2005	Teruki Morita	272296US90PCT	7169
22850	7590	03/19/2008		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER AFZALI, SARANG	
			ART UNIT 3726	PAPER NUMBER
			NOTIFICATION DATE 03/19/2008	DELIVERY MODE ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com  
oblonpat@oblon.com  
jgardner@oblon.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/534,537	<b>Applicant(s)</b> MORITA, TERUKI	
	<b>Examiner</b> SARANG AFZALI	<b>Art Unit</b> 3726	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 December 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 1-6 and 14-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                        |                                                                   |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20050613</u> .                                                | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election without traverse of Group II, claims 7-13 in the reply filed on 12/26/2008 is acknowledged.

### ***Specification***

2. The abstract of the disclosure does not commence on a separate sheet in accordance with 37 CFR 1.52(b)(4). A new abstract of the disclosure is required and must be presented on a separate sheet, apart from any other text.

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested:

A PROCESS FOR PRODUCING AN ALUMINUM PIPE IN A FURNACE HAVING  
AN INERT GAS ATMOSPHERE.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 7-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The independent claim 7 is drawn to a process for producing an **aluminum pipe** wherein a **pipe blank** and an **aluminum material** having certain compositions are heated (apparently near each other but not necessarily attached to each other in any specific manner) in a furnace. Is Applicant claiming a process of assembling two different elements (pipe blank and aluminum material) in a furnace to produce an aluminum pipe? If so, it is not clear why a combination of a pipe blank and aluminum material is called aluminum pipe?

Claim 13, dependent on claim 7, further recites in lines 2-3 that “the aluminum material is in the form of a plurality of heat exchange tubes” and in line 7-11 that “the furnace being **adapted** to braze the heat exchange tubes, aluminum headers and aluminum fins, and the pipe blank is heated when the heat exchange tubes, the headers and the fins are brazed in the inert gas atmosphere.”

It is not clear what exactly the Applicant is claiming in claim 13. Is it an assembly of the plurality of different elements that makes the “aluminum material” (i.e., heat exchange tubes, aluminum headers, aluminum fins) or an assembly of the plurality of the elements making the aluminum material together with the pipe blank is being claimed?

In either case, the independent claim1 only claims a process for forming an aluminum pipe and claim 13 seems to be claiming a process for making an assembly, and as such, the invention of claims 7 and 13 seem to be mutually exclusive from each other.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 7-13, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art ("AAPA") in view of Sartini et al. (US 5,529,816) and Syslak et al. (US 5,316,206).

As applied to claims 7 & 8, "AAPA" teaches a conventional process for producing a condenser wherein an alloy containing 1.0 to 1.5 mass % of Mn, at least 0.2 mass % to less than 0.6 mass% of Mg, and the balance Al and inevitable impurities is used to make aluminum pipes (Applicant's specification, page 2, lines 18-23).

"AAPA" does not teach the "aluminum material having 2.0 to 16.0  $g/m^2$  of a Zn spray layer formed over a surface thereof and 75 to 600 gram in total amount of Zn are heated at 580 to 610° C for 3 to 15 minutes in a furnace having an inert gas atmosphere."

Sartini et al. teach a method of coating an aluminum based material having 7 to 14  $g/m^2$  of Zn spray layer formed over a surface as a means of providing a corrosion resistance surface over the material.

Syslak et al. teach a method of joining aluminum members wherein aluminum tubes with coatings of zinc alloy were placed into a brazing furnace in a nitrogen (inert gas) atmosphere and heated at 585° C for 3 minutes.

It would have been obvious to one of ordinary skill in the art at the time of invention to have provided the aluminum material (assembly) of "AAPA" with the coating step of Sartini et al. in order to provide a controlled amount of zinc coating onto the surface of aluminum members and the brazing step of Syslak et al. in order to provide a suitable means of joining aluminum members with superior corrosion protection.

Note that the limitation of "2.0 to 16.0  $g/m^2$  of a Zn spray layer formed over a surface" recites the "loading rate" of the coated layer (i.e., the amount of Zinc coating in an area of one square meter of the aluminum material). The limitation of "75 to 600 g in total amount of Zn" recites the total amount (weight in grams) of Zinc used in the coating layer. Therefore, depending on the surface area of the aluminum material being coated on, the total amount of Zinc used in the coating is established. Since the method of "AAPA"/ Sartini et al./ Syslak et al. teach the "loading rate" and all the other claim limitations, therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a "total amount of Zinc" in the amount claimed, in order to cover a correspondingly sized aluminum pipe/pipe assembly.

As applied to claims 9-12, "AAPA" teaches that aluminum pipe contains zero mass % of Cu, Fe, Si and 0.2 to 0.6 of Mg, which meets the claim limitations of "up to 0.01 mass % of Cu" (claim 9), "up to 0.25 mass % of Fe" (claim 10), "up to 0.25 mass % of Si" (claim 11) and "up to 0.30 mass of Mg" (claim 12) as an inevitable impurity.

As applied to claim 13, the combination of "AAPA"/ Sartini et al./ Syslak et al. teach a method of producing an aluminum pipe and aluminum material including a

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plurality of heat exchange tubes for use in a heat exchanger by in a furnace adapted to braze the plurality of assembled members.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SARANG AFZALI whose telephone number is (571)272-8412. The examiner can normally be reached on 7:00-3:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bryant can be reached on 571-272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sarang Afzali/  
Examiner, Art Unit 3726  
3/7/2008

/David P. Bryant/  
Supervisory Patent Examiner, Art Unit 3726